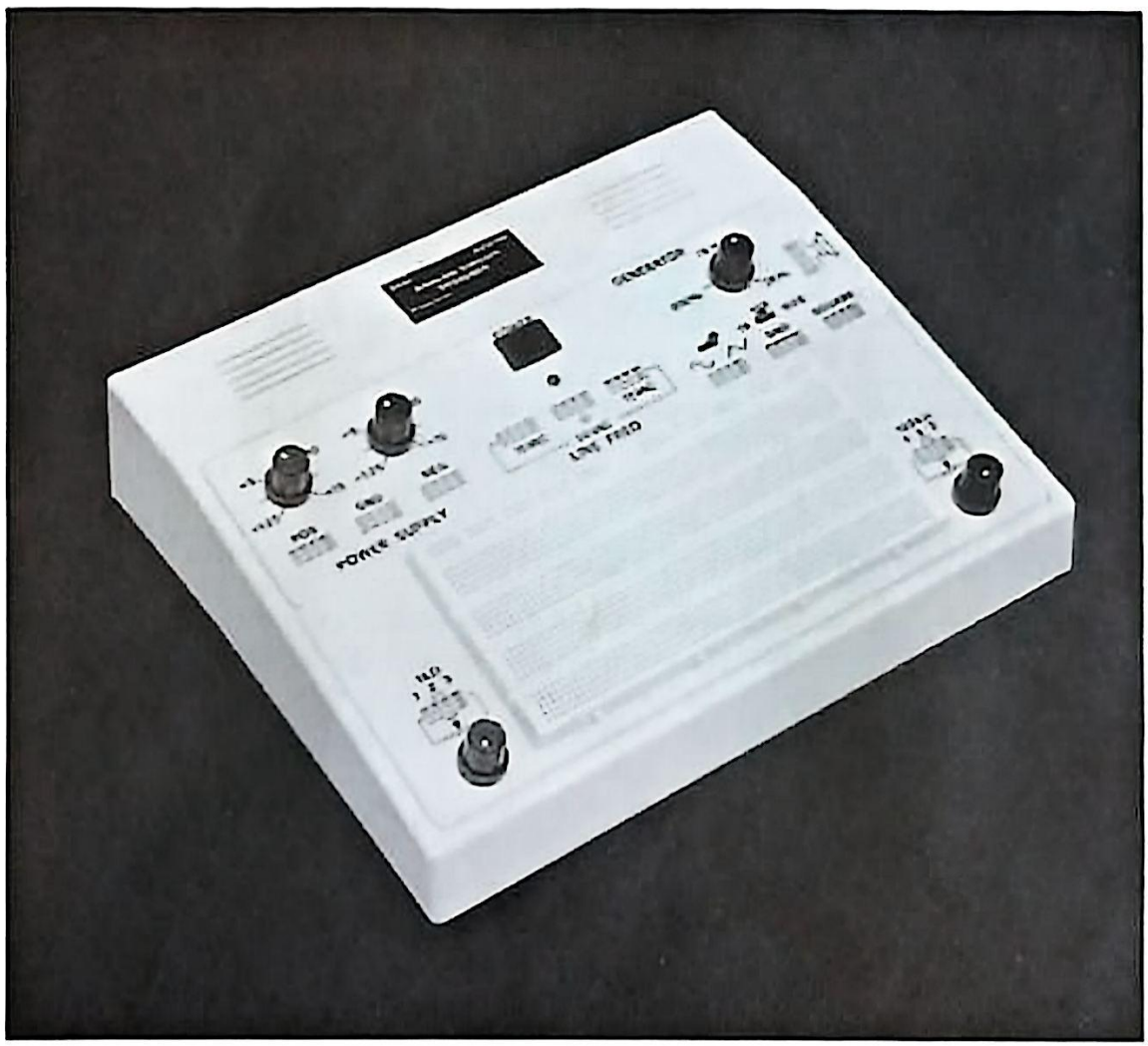
ECG®
Analog
Circuit Designer



Model ACD100

ACD100 Specifications

Power

Input ..... 115 VAC, 60 Hz
Protection ..... 250 V/300 mA Fuse
Thermal Fuse on Transformer Primary
AC Supplies (Fixed) ..... 15 VAC @ 250 mA (Max.)
30 VAC @ 500 mA (Max.)
DC Supplies (Variable and Regulated) ..... +1.25 V to +15 V @ 300 mA (Max.)
−1.25 V to −15 V @ 300 mA (Max.)
Protection ..... Short Circuit Overload

Generator

Output
Waveforms ..... Sine, Triangle and Square
Ranges ..... 200 Hz-2 kHz, 2 kHz-20 kHz, 20 kHz-200 kHz
Voltage ..... Sine and Triangle, 6 V Peak to Peak
Square, 12 V Peak to Peak
Impedance ..... 600 Ohms
Current ..... 5 mA

Potentiometers

1 KΩ and 100 KΩ, ±10%, Linear Taper (One Each)

Breadboards

1 Power Bus Strip ..... 100 Tie Points
2 Terminal Strips ..... 1280 Tie Points (Total)
Wire Size ..... Sockets Accept 20 to 29 AWG

Speaker: 8 Ω, 1/4 Watt

Power Cord: 6 Foot, 2 Conductor with 2 Prong Polarized Plug

Fuse Holder: Rear Panel Mounted, Accepts AG Type Fuses

Dimensions: 10.8" W (274 mm) x 8.9" D (226 mm) x 2.4" H (61 mm)

Weight: 3.0 lbs. (1361 gm) (approx.)

All specifications are subject to change without notice.

Operating Instructions

For your safety, please familiarize yourself with the contents of this manual before attempting to operate this circuit designer.

Warning and Precautions

To insure your safety, please adhere strictly to the following warning and caution statements:

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION: NO USER SERVICEABLE PARTS INSIDE THIS EQUIPMENT. REFER SERVICING TO AUTHORIZED PERSONNEL ONLY.

WARNING: BEFORE CONNECTING THE AC POWER MAKE SURE THE POWER INPUT IS THE SAME AS SPECIFIED IN THE "POWER INPUT" SECTION.

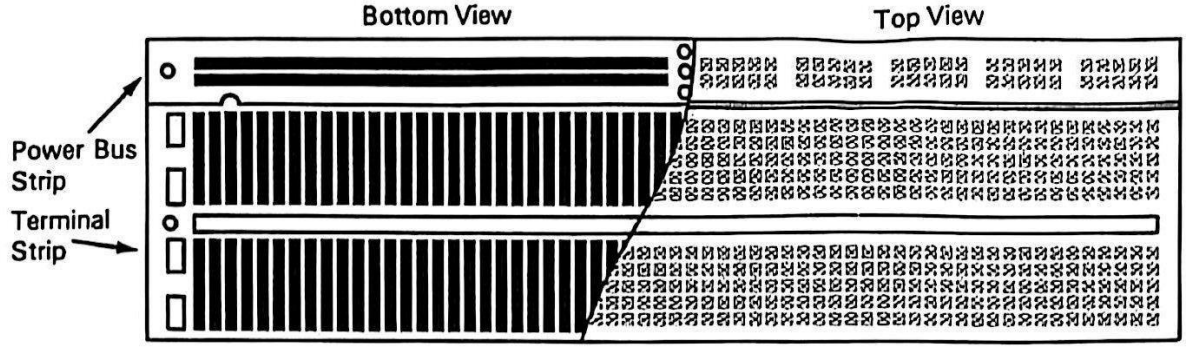
Power Switch

1. To turn the unit on, depress the switch marked "POWER". A LED by the switch will light showing the unit is receiving power.
2. To turn the unit off, depress the opposite side of the "POWER" switch.

Breadboard Area

1. There are a total of 3 breadboards, one power bus strip on the top and 2 terminal strips on the bottom.
2. The breadboard sockets are designed to accept wire sizes from 20 AWG to 29 AWG.

3. The wiring arrangements of the breadboards are:



Where "▬▬" means electrically connected.

Power Supply

1. This unit has 2 regulated, variable DC power supplies adjustable from +1.25 V to +15 V and from −1.25 V to −15 V.
2. Each power supply has a 4 terminal socket positioned under its respective 'POS" or "NEG" panel marking and both are referenced to the 4 terminal socket marked "GND". For example, a positive supply can be obtained by running wires from the "POS" and "GND" sockets.

Line Freq

1. The ACD100 has 2 fixed 15 VAC power supplies operating at a power line frequency of 60 Hz.
2. The 4 socket positions above each of the "15 VAC" markings represent a separate 15 volt AC supply.
3. A floating 30 VAC supply can be obtained by connecting to each one of the "15 VAC" sockets, as shown by the legend on the front panel.

Generator

1. The built-in signal generator produces sine, triangle and square waveforms. The switch above the socket marked ∿, ⩘ controls the output of the socket. If a sine wave output is needed the switch should be in the ∿ position. If a triangle wave output is needed, the switch should be in the ⩘ position. The 4 socket positions under the marking "SQUARE" have a constant square wave output. Plus there are 4 ground socket positions below the "GND" marking.
2. The generator's frequency range is determined by a slide switch and can be varied within the selected range with the frequency adjustment control. With the switch in the "1X" position the generator's frequency is between 200 Hz and 2 kHz. When the switch is in the "10X" position, the frequency range becomes 2 kHz (200 Hz x 10) to 20 kHz (2 kHz x 10). Similarly, with the switch in the "100X" position, the frequency range becomes 20 kHz (200 Hz x 100) to 200 kHz (2 kHz x 100).

Speaker

1. A built-in speaker is provided as an audio output for the user. There are 4 input socket positions next to the speaker symbol. The 2 upper socket positions connect to one side of the speaker coil and the 2 lower positions connect to the other side of the speaker coil.

1 KΩ

1. This is a built-in 1 kΩ potentiometer. The total resistance of the pot is between socket 1 and 3, the potentiometer wiper is at the position marked 2.

100 KΩ

1. This is a built-in 100 kΩ potentiometer. The total resistance of the pot is between socket 1 and 3, the potentiometer wiper is at the position marked 2.

Fuse Replacement

1. To replace the fuse, grasp the fuse holder and unscrew it by turning counter clockwise.
2. Replace the fuse with one of the proper rating, reinsert fuse holder and turn clockwise until tight.

WARNING: ALWAYS USE A REPLACEMENT FUSE OF THE PROPER RATING AS SHOWN ABOVE THE FUSE HOLDER.

Customer Limited Warranty

Philips ECG warrants to the original purchaser that this **ECG Circuit Designer** shall be free from any defect in material and workmanship for a period of one year from the date of purchase. If a defect covered by this warranty occurs during the warranty period, you should return the unit to Philips ECG, together with a copy of your dated proof-of-purchase, an explanation of the nature of the defect, freight prepaid, (CAREFULLY PACKAGED TO AVOID TRANSIT DAMAGE), to:

Philips ECG
1025 Westminster Drive
Williamsport, Pa. 17701
Attn: Warranty Service

This warranty does not cover damage or malfunction resulting from improper handling, accident, misuse, abuse, damage in transit for repairs, repairs by unauthorized person(s) or agency or any other reason not due to defect in **material** or **workmanship.**

Philips ECG's liability is limited, in its sole discretion, to the repair or replacement of the defective UNIT. In the event of replacement, the replacement unit warranty will cover the unexpired portion of the warranty period of the original purchased unit.

In no event will Philips ECG or its agents be liable for any indirect, special or consequential damages nor for any amount in excess of the current net price of the defective item. **All other warranties, expressed or implied, including the warranty of merchantability are excluded.**

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

Philips ECG

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